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**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  JDM/P410310WO	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No.  PCT/GB2004/004763	International filing date (day/month/year)  12/11/2004	(Earliest) Priority Date (day/month/year)  14/11/2003
Applicant  PRINTETCH LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b.  With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2.  Certain claims were found unsearchable (See Box II).

3.  Unity of invention is lacking (see Box III).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

**SECURITY PRINTING USING A DIFFRACTION GRATING**

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB2004/004763

## Box No. IV Text of the abstract (Continuation of Item 5 of the first sheet)

There is provided an apparatus and a method of printing a diffraction grating. In particular, the present invention relates to diffraction gratings applied to a substrate(1), such as a hologram.

# INTERNATIONAL SEARCH REPORT

Intern Application No  
PCT/GB2004/004763

**A. CLASSIFICATION OF SUBJECT MATTER**  
**B41F19/02**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
**B41F B42D**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**EPO-Internal, WPI Data**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 302 016 B1 (GIORI FAUSTO ET AL.) 16 October 2001 (2001-10-16) see abstract column 1, line 5 - column 4, line 62; figures 1-4	1-9
X	EP 0 440 045 A (GAO GESELLSCHAFT FÜR AUTOMATION UND ORGANISATION MBH) 7 August 1991 (1991-08-07) see abstract column 14; figures 4,5	1
A	US 5 549 774 A (RICHARD G. MIEKKA ET AL.) 27 August 1996 (1996-08-27) cited in the application the whole document	2-9
A	----- -----	1-9
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

2 December 2005

Date of mailing of the international search report

21.12.2005

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Authorized officer

Greiner, E

# INTERNATIONAL SEARCH REPORT

Interr	Application No
PCT/GB2004/004763	

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 087 510 A (EDWARD F. TOKAS ET AL.) 11 February 1992 (1992-02-11) cited in the application the whole document -----	1-9
A	US 4 728 377 A (TERENCE J. GALLAGHER) 1 March 1988 (1988-03-01) cited in the application the whole document -----	1-9
A	US 4 913 858 A (RICHARD G. MIEKKA ET AL.) 3 April 1990 (1990-04-03) cited in the application the whole document -----	1-9
X	WO 02/094578 A (GIESECKE & DEVRIENT GMBH) 28 November 2002 (2002-11-28) see abstract page 2, line 1 - page 10, last line ; figures 1-3 -----	10-52
X	US 5 629 068 A (RICHARD G. MIEKKA ET AL.) 13 May 1997 (1997-05-13) see abstract column 1, line 11 - column 6, line 61; figures 1-4 -----	10-52
Y	WO 92/16378 A (AMBLEHURST LIMITED) 1 October 1992 (1992-10-01) see abstract page 11 - page 17; figures 1-9 -----	10-52
Y	GB 2 231 572 A (THE DE LA RUE COMPANY P.L.C.) 21 November 1990 (1990-11-21) see abstract page 1, line 2 - page 11, line 11 -----	10-52
Y	EP 0 253 543 A (THOMAS DE LA RUE & COMPANY LIMITED) 20 January 1988 (1988-01-20) the whole document -----	10-52

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2004/004763

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**

 Intern. application No  
**PCT/GB2004/004763**

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 6302016	B1	16-10-2001	AT AU AU CA CN DE DE EP JP KR RU	226520 T 747123 B2 4467899 A 2280646 A1 1250719 A 69903603 D1 69903603 T2 0985548 A1 2000085096 A 2000022968 A 2214922 C2		15-11-2002 09-05-2002 16-03-2000 08-03-2000 19-04-2000 28-11-2002 14-08-2003 15-03-2000 28-03-2000 25-04-2000 27-10-2003
EP 0440045	A	07-08-1991	AT CA DE ES MT US	136385 T 2035432 A1 4002979 A1 2085363 T3 1079 A 5248544 A		15-04-1996 02-08-1991 08-08-1991 01-06-1996 10-04-1992 28-09-1993
US 5549774	A	27-08-1996	AU CA DE DE EP WO US	4242393 A 2135621 A1 69329662 D1 69329662 T2 0678074 A1 9323251 A1 5629068 A		13-12-1993 25-11-1993 14-12-2000 09-08-2001 25-10-1995 25-11-1993 13-05-1997
US 5087510	A	11-02-1992		NONE		
US 4728377	A	01-03-1988		NONE		
US 4913858	A	03-04-1990		NONE		
WO 02094578	A	28-11-2002	CA DE EP	2443546 A1 10124221 A1 1395439 A1		28-11-2002 21-11-2002 10-03-2004
US 5629068	A	13-05-1997	AU CA DE DE EP WO US	4242393 A 2135621 A1 69329662 D1 69329662 T2 0678074 A1 9323251 A1 5549774 A		13-12-1993 25-11-1993 14-12-2000 09-08-2001 25-10-1995 25-11-1993 27-08-1996
WO 9216378	A	01-10-1992	AT AU AU CA DE DE DK EP ES GB GR GR US	140900 T 659447 B2 1434192 A 2104389 A1 69212596 D1 69212596 T2 576530 T3 0576530 A1 2092677 T3 2269341 A 3021363 T3 3035301 T3 5492370 A		15-08-1996 18-05-1995 21-10-1992 23-09-1992 05-09-1996 20-02-1997 30-12-1996 05-01-1994 01-12-1996 09-02-1994 31-01-1997 30-04-2001 20-02-1996

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

Integrated printing press

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2. claims: 10-52

Metallic ink in security production

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# INTERNATIONAL SEARCH REPORT

Intern Application No  
PCT/GB2004/004763

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
GB 2231572	A	21-11-1990	NONE	
EP 0253543	A	20-01-1988	DE 3771138 D1 DK 355387 A HK 115495 A	08-08-1991 11-01-1988 21-07-1995

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